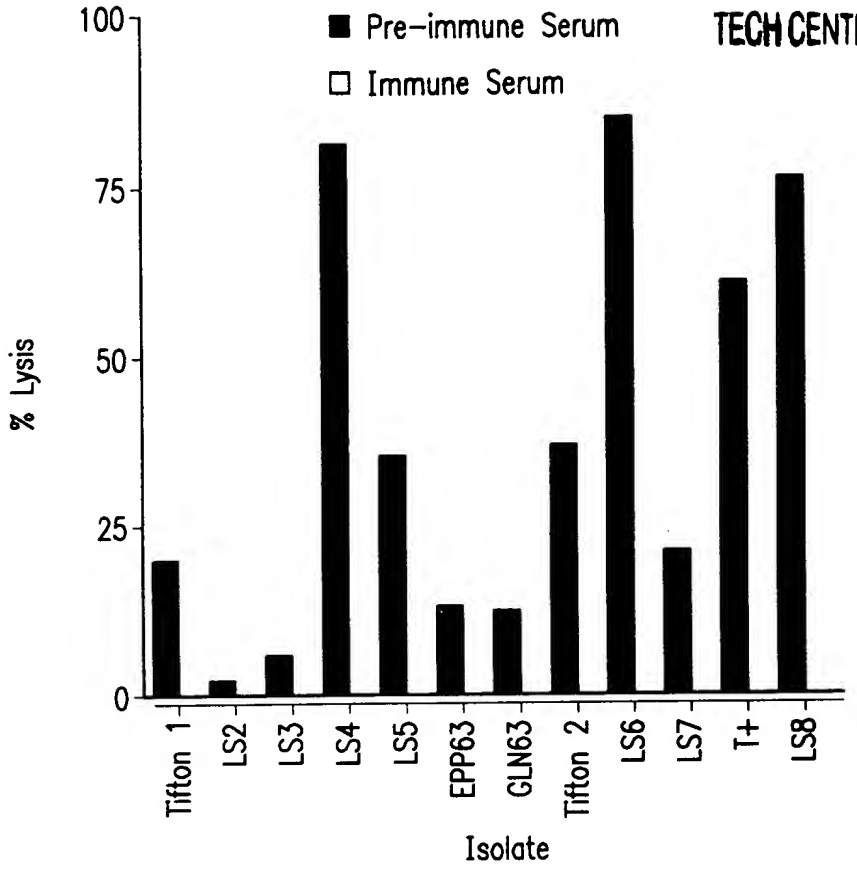
FIG. 1



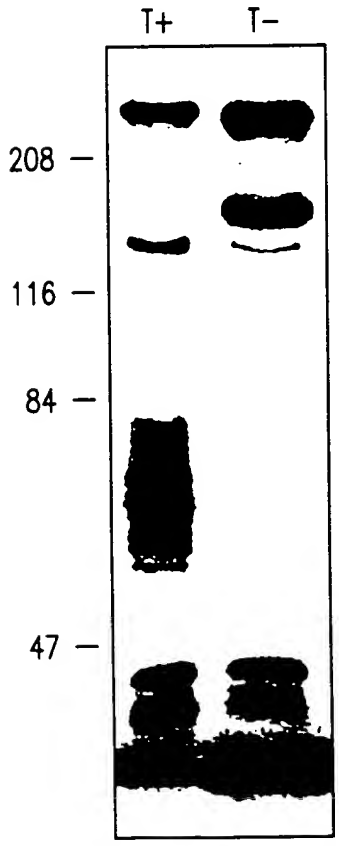


FIG. 2

FIG. 3-1


```
   1 ATGTCCAATATAAATGTAATTAAATCTAATATTCAAGCAGGCTTGAATTCAACAAAGTCT   60
   1 M  S  N  I  N  V  I  K  S  N  I  Q  A  G  L  N  S  T  K  S    20

  61 GGATTAAAAAATCTTTACTTGGCTATTCCCAAAGATTATGATCCGCAAAAAGGTGGGACT  120
  21 G  L  K  K  N  L  Y  L  A  I  P  K  D  Y  D  P  Q  K  G  G  T   40

 121 TTAAATGATTTTATTAAAGCTGCTGAAGAATTAGGTATTGCTCGTTTAGCAGAAGAGCCT  180
  41 L  N  D  F  E  K  A  A  D  E  L  G  I  A  R  L  A  E  E  P    60

 181 AATCACACTGAAACAGCAAAAAAATCTGTTGACACAGTAAATCAGTTTCTCTCTCTCACA  240
  61 N  H  T  E  T  A  K  K  S  V  D  T  V  N  Q  F  L  S  L  T    80

 241 CAAACTGGTATTGCTATTTCTGCAACAAAATTAGAAAAGTTCTTACAAAAACATTCTACC  300
  81 Q  T  G  I  A  I  S  A  T  K  L  E  K  F  L  Q  K  H  S  T   100

 301 AATAAGTTAGCCAAAGGGTTAGACAGTGTAGAAAATATTGATCGTAAATTAGGTAAAGCA  360
 101 N  K  L  A  K  G  L  D  S  V  E  N  I  D  R  K  L  G  K  A   120

 361 AGTAATGTATTATCAACATTAAGCTCTTTTTTGGGCACTGCATTAGCGGGTATAGAACTT  420
 121 S  N  V  L  S  T  L  S  S  F  L  G  T  A  L  A  G  I  E  L   140

 421 GATTCTTTAATCAAAAAAGGTGATGCTGCACCTGATGCTTTGGCTAAAGCTAGTATTGAC  480
 141 D  S  L  I  K  K  G  D  A  A  P  D  A  L  A  K  A  S  I  D   160

 481 TTGATTAATGAGATAATTGGTAATCTATCTCAGAGTACTCAAACGATTGAAGCATTTTCT  540
 161 L  I  N  E  I  I  G  N  L  S  Q  S  T  Q  T  I  E  A  F  S   180

 541 TCACAGTTAGCAAAGTTAGGTTCTACTATATCGCAGGCTAAAGGCTTCTCTAATATAGGA  600
 181 S  Q  L  A  K  L  G  S  T  I  S  Q  A  K  G  F  S  N  I  G   200

 601 AACAAGTTGCAAAACTTAAATTTTTCTAAAACAAATCTTGGTTTGGAAATAATTACTGGT  660
 201 N  K  L  Q  N  L  N  S  S  K  T  N  L  G  L  E  I  I  T  G   220

 661 TTGCTATCAGGCATTTCTGCAGGCTTTGCTTTAGCGGATAAAAATGCATCGACTGGCAAA  720
 221 L  L  S  G  I  S  A  G  F  A  L  A  D  K  N  A  S  T  G  K   240

 721 AAAGTTGCTGCAGGTTTTGAATTAAGCAATCAAGTTATTGGTAATGTAACAAAAGCAATT  780
 241 K  V  A  A  G  F  E  L  S  N  Q  V  I  G  N  V  T  K  A  I   260

 781 TCTTCATATGTTTTAGCACAACGTGTTGCTGCTGGTCTATCAACTACTGGTGCTGTTGCT  840
 261 S  S  Y  V  L  A  Q  R  V  A  A  G  L  S  T  T  G  A  V  A   280

 841 GCTTTAATTACTTCATCGATTATGTTGGCAATTAGTCCTTTGGCATTTATGAATGCAGCA  900
 281 A  L  I  T  S  S  I  M  L  A  I  S  P  L  A  F  M  N  A  A   300

 901 GATAAATTCAATCATGCTAATGCTCTTGATGAGTTTGCAAAACAATTCCGAAAATTTGGC  960
 301 D  K  F  N  H  A  N  A  L  D  E  F  A  K  Q  F  R  K  F  G   320
```

FIG. 3-2


```
 961 TATGATGGGGATCATTTATTGGCTGAATATCAGCGTGGTGTGGGTACTATTGAAGCTTCA 1020
 321  Y  D  G  D  H  L  L  A  E  Y  Q  R  G  V  G  T  I  E  A  S  340

1021 TTAACTACAATTAGTACGGCATTAGGTGCAGTTTCTGCTGGTGTTTCCGCTGCTGCTGTA 1080
 341  L  T  T  T  I  S  T  A  L  G  A  V  S  A  G  V  S  A  A  A  V  360

1081 GGATCTGCTGTTGGTGCACCGATTGCACTATTAGTTGCAGGTGTTACAGGATTGATCTCT 1140
 361  G  S  A  V  G  A  P  I  A  L  L  V  A  G  V  T  G  L  I  S  380

1141 GGAATTTTAGAAGCGTCTAAACAGGCAATGTTTGAAAGTGTTGCTAACCGTTTACAAGGT 1200
 381  G  I  L  E  A  S  K  Q  A  M  F  E  S  V  A  N  R  L  Q  G  400

1201 AAAATTTTAGAGTGGGAAAAGCAAAATGGCGGTCAGAACTATTTTGATAAAGGCTATGAT 1260
 401  K  I  L  E  W  E  K  Q  N  G  G  Q  N  Y  F  D  K  G  Y  D  420

1261 TCTCGTTATGCTGCTTATTTAGCTAATAACTTAAAATTTTTGTCTGAGCTAAATAAAGAG 1320
 421  S  R  Y  A  A  Y  L  A  N  N  L  K  F  L  S  E  L  N  K  E  440

1321 TTGGAAGCTGAACGTGTTATTGCAATCACCCAACAACGTTGGGATAATAATATTGGTGAG 1380
 441  L  E  A  E  R  V  I  A  I  T  Q  Q  R  W  D  N  N  I  G  E  460

1381 TTAGCAGGTATTACCAAATTGGGTGAACGCATTAAGAGCGGAAAAGCTTATGCAGATGCT 1440
 461  L  A  G  I  T  K  L  G  E  R  I  K  S  G  K  A  Y  A  D  A  480

1441 TTTGAAGATGGCAAGAAAGTTGAAGCTGGTTCCAATATTACTTTGGATGCTAAAACTGGT 1500
 481  F  E  D  G  K  K  V  E  A  G  S  N  I  T  L  D  A  K  T  G  500

1501 ATCATAGACATTAGTAATTCAAATGGGAAAAAAACGCAAGCGTTGCATTTCACTTCGCCT 1560
 501  I  I  D  I  S  N  S  N  G  K  K  T  Q  A  L  H  F  T  S  P  520

1561 TTGTTAACAGCAGGAACTGAATCACGTGAACGTTTAACTAATGGTAAATACTCTTATATT 1620
 521  L  L  T  A  G  T  E  S  R  E  R  L  T  N  G  K  Y  S  Y  I  540

1621 AATAAGTTAAAATTCGGACGTGTAAAAAACTGGCAAGTTACAGATGGAGAGGCTAGTTCT 1680
 541  N  K  L  K  F  G  R  V  K  N  W  Q  V  T  D  G  E  A  S  S  560

1681 AAATTAGATTTCTCTAAAGTTATTCAGCGTGTAGCCGAGACAGAAGGCACAGACGAGATT 1740
 561  K  L  D  F  S  K  V  I  Q  R  V  A  E  T  E  G  T  D  E  I  580

1741 GGTCTAATAGTAAATGCAAAAGCTGGCAATGACGATATCTTTGTTGGTCAAGGTAAAATG 1800
 581  G  L  I  V  N  A  K  A  G  N  D  D  I  F  V  G  Q  G  K  M  600

1801 AATATTGATGGTGGAGATGGACACGATCGTGTCTTCTATAGTAAAGACGGAGGATTTGGT 1860
 601  N  I  D  G  G  D  G  H  D  R  V  F  Y  S  K  D  G  G  F  G  620

1861 AATATTACTGTAGATGGTACGAGTGCAACAGAAGCAGGCAGTTATACAGTTAATCGTAAG 1920
 621  N  I  T  V  D  G  T  S  A  T  E  A  G  S  Y  T  V  N  R  K  640
```

FIG. 3-3


```
1921 GTTGCTCGAGGTGATATCTACCATGAAGTTGTGAAGCGTCAAGAAACCAAGGTGGGTAAA 1980
 641  V  A  R  G  D  I  Y  H  E  V  V  K  R  Q  E  T  K  V  G  K   660

1981 CGTACTGAAACTATCCAGTATCGTGATTATGAATTAAGAAAAGTTGGGTATGGTTATCAG 2040
 661  R  T  E  T  I  Q  Y  R  D  Y  E  L  R  K  K  V  G  Y  G  Y  Q   680

2041 TCTACCGATAATTTGAAATCAGTAGAAGAAGTAATTGGTTCTCAATTTAATGATGTATTC 2100
 681  S  T  D  N  L  K  S  V  E  E  V  I  G  S  Q  F  N  D  V  F   700

2101 AAAGGTTCTAAATTCAACGACATATTCCATAGTGGTGAAGGTGATGATTTACTCGATGGT 2160
 701  K  G  S  K  F  N  D  I  F  H  S  G  E  G  D  D  L  L  D  G   720

2161 GGTGCTGGTGACGACCGCTTGTTTGGTGGTAAAGGCAACGATCGACTTTCTGGAGATGAA 2220
 721  G  A  G  D  D  R  L  F  G  G  K  G  N  D  R  L  S  G  D  E   740

2221 GGCGATGATTTACTCGATGGCGGTTCTGGTGATGATGTATTAAATGGTGGTGCTGGTAAT 2280
 741  G  D  D  L  L  D  G  G  S  G  D  D  V  L  N  G  G  A  G  N   760

2281 GATGTCTATATCTTTCGGAAAGGTGATGGTAATGATACTTTGTACGATGGCACGGGCAAT 2340
 761  D  V  Y  I  F  R  K  G  D  G  N  D  T  L  Y  D  G  T  G  N   780

2341 GATAAATTAGCATTTGCAGATGCAAATATATCTGATATTATGATTGAACGTACCAAAGAG 2400
 781  D  K  L  A  F  A  D  A  N  I  S  D  I  M  I  E  R  T  K  E   800

2401 GGTATTATAGTTAAACGAAATGATCATTCAGGTAGTATTAACATACCAAGATGGTACATA 2460
 801  G  I  I  V  K  R  N  D  H  S  G  S  I  N  I  P  R  W  Y  I   820

2461 ACATCAAATTTACAAAATTATCAAAGTAATAAAACAGATCATAAAATTGAGCAACTAATT 2520
 821  T  S  N  L  Q  N  Y  Q  S  N  K  T  D  H  K  I  E  Q  L  I   840

2521 GGTAAAGATGGTAGTTATATCACTTCCGATCAAATTGATAAAATTTTGCAAGATAAGAAA 2580
 841  G  K  D  G  S  Y  I  T  S  D  Q  I  D  K  I  L  Q  D  K  K   860

2581 GATGGTACAGTAATTACATCTCAAGAATTGAAAAAGCTTGCTGATGAGAATAAGAGCCAA 2640
 861  D  G  T  V  I  T  S  Q  E  L  K  K  L  A  D  E  N  K  S  Q   880

2641 AAATTATCTGCTTCGGACATTGCAAGTAGCTTAAATAAGCTAGTTGGGTCAATGGCACTA 2700
 881  K  L  S  A  S  D  I  A  S  S  L  N  K  L  V  G  S  M  A  L   900

2701 TTTGGTACAGCAAATAGTGTGAGTTCTAACGCCTTACAGCCAATTACACAACCAACTCAA 2760
 901  F  G  T  A  N  S  V  S  S  N  A  L  Q  P  I  T  Q  P  T  Q   920

2761 GGAATTTTGGCTCCAAGTGTTTAG   SEQ ID NO. 1                        2784
 921  G  I  L  A  P  S  V  *    SEQ ID NO. 2                         928
```

FIG. 4-1

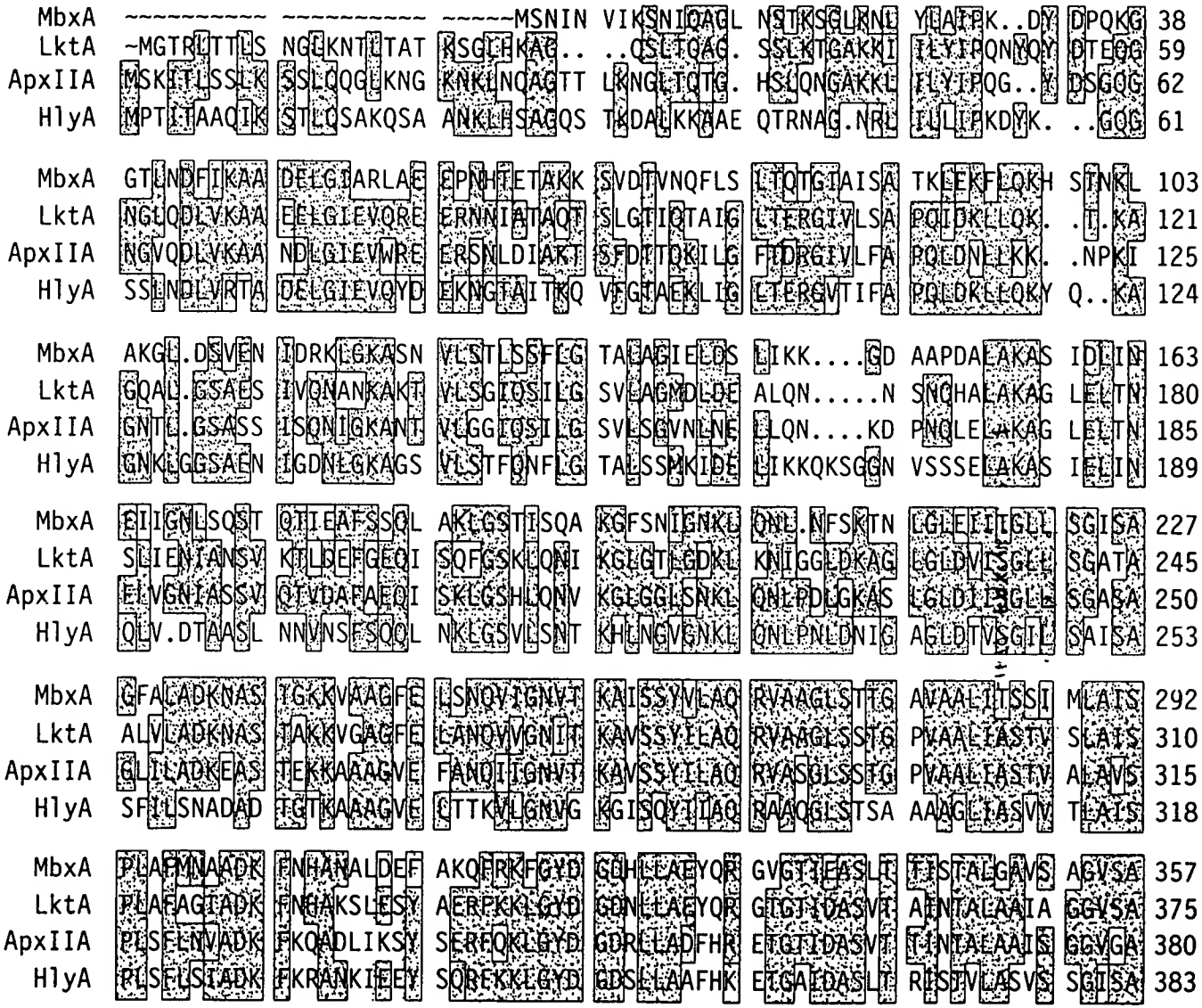
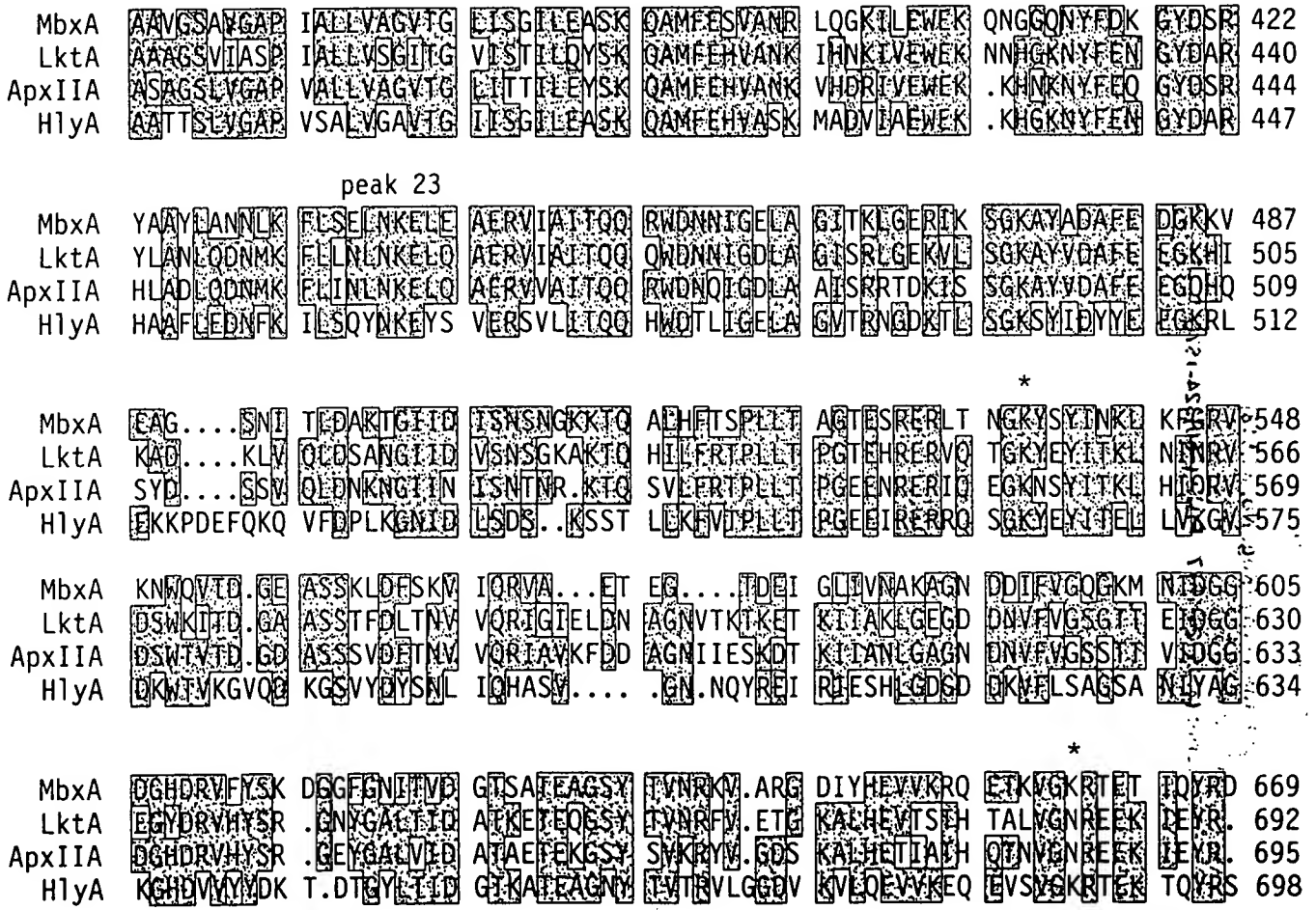


FIG. 4-2



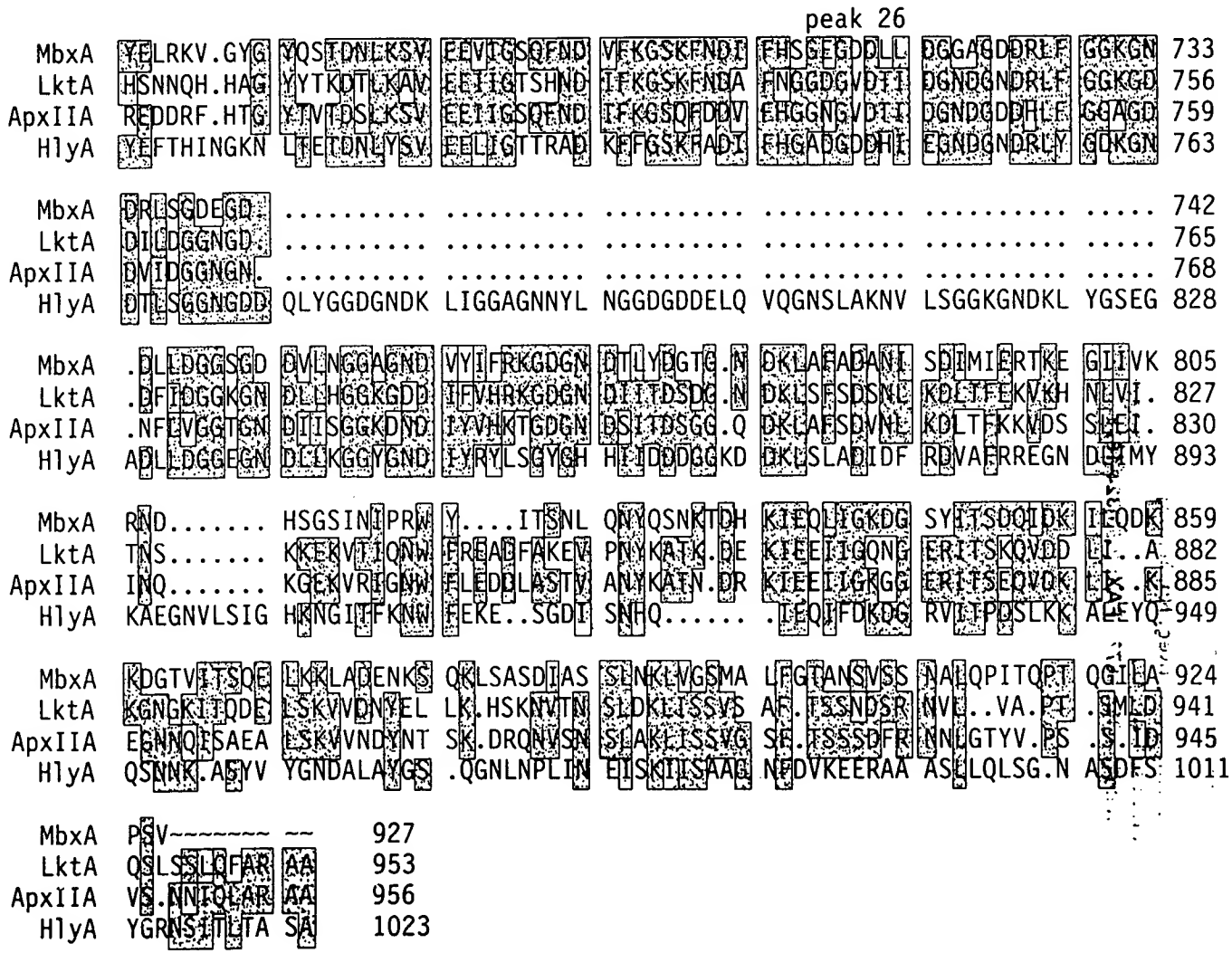


FIG. 4–3

FIG. 5

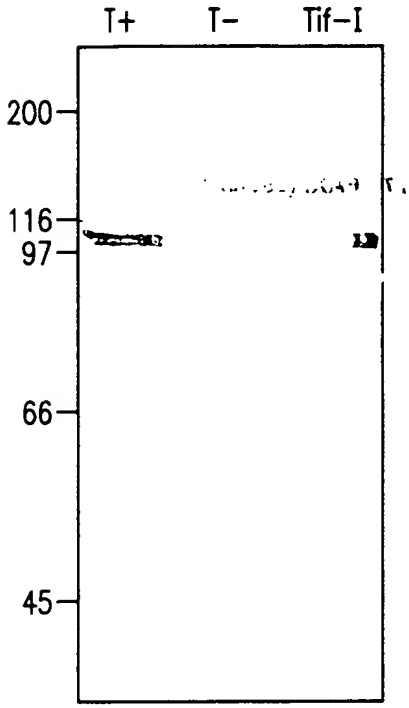
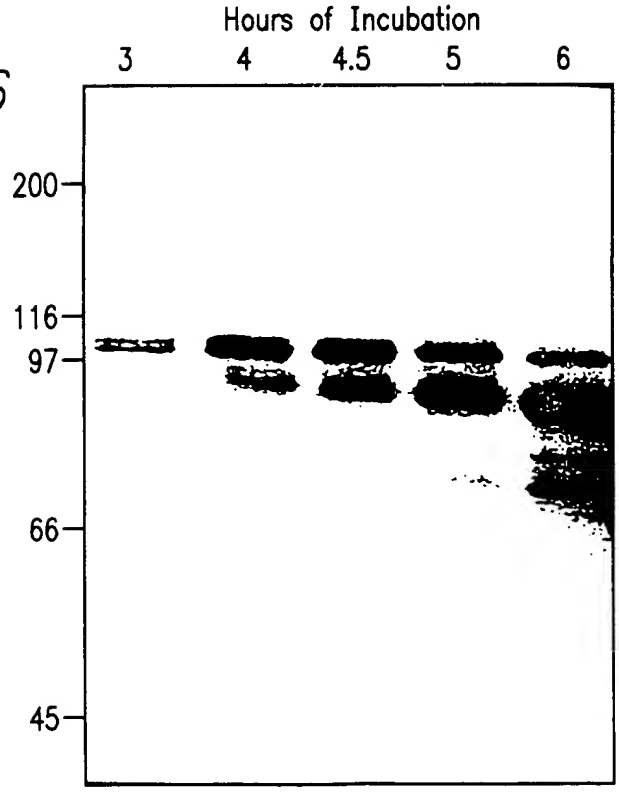


FIG. 6



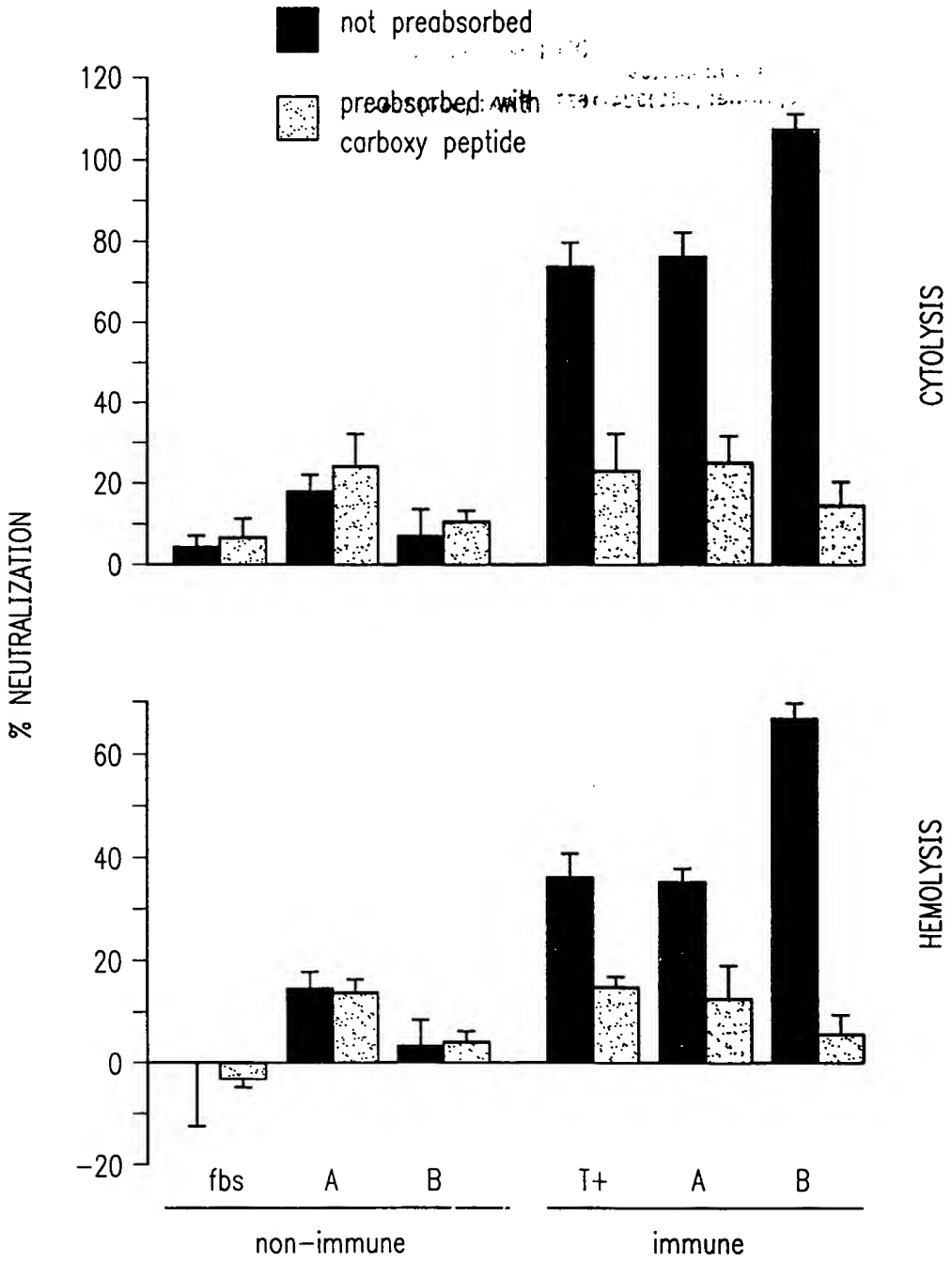


FIG. 7

FIG. 8-1


```
   1 ATGGGTGGTGATACTTCTTTAATTAGACTTAATTTACAAACCCTTAATAGTAATTTAGTT   60
   1  M  G  G  D  T  S  L  I  R     N  L  Q  T  L  N  S  N  L  V   20

  61 ATGATAGATTATGCTCAACAACCTGCTCTATCTGCTCTGGTTATCCTTGCCAAATACTAT  120
  21  M  I  D  Y  A  Q  Q  P  A  L  S  A  L  V  I  L  A  K  Y  Y   40

 121 GGTATTTCTGCAAGTCCAGCAGACATTATGCATCAGTTTTCTGATAATACAAAAGGAGAC  180
  41  G  I  S  A  S  P  A  D  I  M  H  Q  F  S  D  N  T  K  G  D   60

 181 CTGAATGAAATTGAATGGATGTTGGCAGCAAAGAAATTAGAATTAAAGGTAAAGATTATA  240
  61  L  N  E  I  E  W  M  L  A  A  K  K  L  E  L  K  V  K  I  I   80

 241 AAACAGCCTTTAACTCGATTGTCAATGATAACACTTCCTGCTTTGGTGTGGTGTGATAAT  300
  81  K  Q  P  L  T  R  L  S  M  I  T  L  P  A  L  V  W  C  D  N  100

 301 AAGCCCGATTTAGATCAAAATTTAAACTCTCATTTTATACTAACTAAAATTGATGGGGTG  360
 101  K  P  D  L  D  Q  N  L  N  S  H  F  I  L  T  K  I  D  G  V  120

 361 GGATCTGCTGCAAAATATCTCATCTACGATTTGATTGAGAATCGTCCCATAATATTAGAT  420
 121  G  S  A  A  K  Y  L  I  Y  D  L  I  E  N  R  P  I  I  L  D  140

 421 GCAAGTGAGTTTTCTGAAAGATATTCTGGTAAGTTAATGCTAGTAACTTCCCGTGCGTCA  480
 141  A  S  E  F  S  E  R  Y  S  G  K  L  M  L  V  T  S  R  A  S  160

 481 ATATTGGGTTCATTGGCTAAATTTGATTTTACTTGGTTTATTCCTGCGGTAATCAAATAT  540
 161  I  L  G  S  L  A  K  F  D  F  T  W  F  I  P  A  V  I  K  Y  180

 541 CGTTATATTTTTTTTTGAAGTCATCGTTATTTCAGTGGTGCTACAGATTTTTGCTCTGATT  600
 181  R  Y  I  F  F  E  V  I  V  I  S  V  V  L  Q  I  F  A  L  I  200

 601 ACGCCATTGTTTTTTCAGGTTGTGATGGATAAGGTATTGGTGCATCGTGGTTTTTCTACT  660
 201  T  P  L  F  F  Q  V  V  M  D  K  V  L  V  H  R  G  F  S  T  220

 661 CTGGATGTGGTAGCGATTGCCTTGTTGGTAGTAAGTTTATTTGAAGTCATTTTAAGTGGT  720
 221  L  D  V  V  A  I  A  L  L  V  V  S  L  F  E  V  I  L  S  G  240

 721 CTACGCACTTATATTTTTGCTCATACAACCTCTCGAATTGATGTAGAGCTAGGAGCACGA  780
 241  L  R  T  Y  I  F  A  H  T  T  S  R  I  D  V  E  L  G  A  R  260

 781 TTATTTCGTCATCTATTAGCTCTACCGCTTGCTTATTTTGAGAGTAGAAGAGTAGGCGAT  840
 261  L  F  R  H  L  L  A  L  P  L  A  Y  F  E  S  R  R  V  G  D  280

 841 ACAGTTGCACGTATACGTGAATTGGAACATATCCGCAATTTCTTAACTGGTCAAGCTCTC  900
 281  T  V  A  R  I  R  E  L  E  H  I  R  N  F  L  T  G  Q  A  L  300

 901 ACTTCAGTTTTAGATTTGGTGTTTTCTTTTATATTCTTGTTTGTAATGTGGTATTACAGC  960
 301  T  S  V  L  D  L  V  F  S  F  I  F  L  F  V  M  W  Y  Y  S  320
```

FIG. 8-2

961 CCTACTTTAACACTGGTAGTTTTGGCATCATTACCAATATATGCGTTTTGGTCTGCCTTT 1020
321 P T L T L V V L A S L P I Y A F W S A F 340

1021 ATTAGCCCAATTTTACGCACTCGACTAAATGATCAATTTGCACGCAATGCAGATAATCAA 1080
341 I S P I L R T R L N D Q F A R N A D N Q 360

1081 TCTTTTTTAGTGGAAAGTATTACTGCGGTTGGTACGGTAAAAGCAATGGCAGTTGAACCT 1140
361 S F L V E S I T A V G T V K A M A V E P 380

1141 CAAATGACCCGTCGCTGGGATAATCAATTAGCAGCTTATGTGGTTTCTAGTTTTCGGGTA 1200
381 Q M T R R W D N Q L A A Y V V S S F R V 400

1201 GCTAAGTTGGCAATGGTTGGGCAGCAAGGAGTACAACTCATTCAAAAGATGGTTATTGTG 1260
401 A K L A M V G Q Q G V Q L I Q K M V I V 420

1261 GCAACTCTATGGATTGGTGCAAAATTGGTAATTGAAGGCAAGCTATCGGTAGGTCAATTA 1320
421 A T L W I G A K L V I E G K L S V G Q L 440

1321 ATAGCATTTAATATGCTGGCAGGTCAGGTGGCCGCTCCTGTTATCCGCCTGGCACAGCTA 1380
441 I A F N M L A G Q A A P V I R L A Q L 460

1381 TGGCAAGATTTTCAGCAAGTAGGTATTTCAGTGGCGAGATTGGGTGATATTTTAAATACT 1440
461 W Q D F Q Q V G I S V A R L G D I L N T 480

1441 CCAACTGAGCATTCTACATCTCGCTTAACTTTACCTGATATTAAGGGTGATATTACATTT 1500
481 P T E H S T S R L T L P D I K G D I T F 500

1501 GAAAATGTTGATTTTCGCTACAAAATAGATGGGCATTTAATATTACAGAATTTAAATTTA 1560
501 E N V D F R Y K I D G H L I L Q N L N L 520

1561 CAGATTAACGCTGGAGAGATACTAGGTATCGTAGGACGCTCTGGTTCAGGTAAATCAACA 1620
521 Q I N A G E I L G I V G R S G S G K S T 540

1621 TTGACAAAATTAGTACAGCGTTTATATGTACCAGAAAATGGGCGAATATTAGTTGATGGA 1680
541 L T K L V Q R L Y V P E N G R I L V D G 560

1681 AACGATTTGGCATTAGCTGATCCCGCTTGGCTGCGTCGCCAAGTGGGTGTTGTTTTGCAG 1740
561 N D L A L A D P A W L R R Q V G V V L Q 580

1741 GAAAATGTGTTACTCAATCGTAGTATTCGAGATAATATTGCCCTAACTGATACGGGCATG 1800
581 E N V L L N R S I R D N I A L T D T G M 600

1801 TCATTAGAGTTTATTATCCAGGCTGCCAAGATGTCTGGGGCACATGACTTTATTATGGAA 1860
601 S L E F I I Q A A K M S G A H D F I M E 620

1861 TTGCCTGAGGGTTATGATACGATTGTTGGAGAGCAAGGTGCAGGCTTGTCAGGTGGACAA 1920
621 L P E G Y D T I V G E Q G A G L S G G Q 640

FIG. 8-3


```
1921 CGCCAGCGTATCGCTATTGCGCGTGCTTTAATTACCAATCCGCGTATTTTGATTTTTGAT 1980
 641  R  Q  R  I  A  I  A  R  A  L  I  T  N  P  R  I  L  I  F  D   660

1981 GAAGCTACTAGTGCATTAGACTATGAGTCGGAAAGGGCTATTATGCAAAATATGCAGGCA 2040
 661  E  A  T  S  A  L  D  Y  E  S  E  R  A  I  M  Q  N  M  Q  A   680

2041 ATTTGCCAAGGTAGAACAGTGTTGATTATTGCACATCGCTTATCTACCGTAAAAATGGCA 2100
 681  I  C  Q  G  R  T  V  L  I  I  A  H  R  L  S  T  V  K  M  A   700

2101 CATCGCATTATTGCAATGGACAAGGGGAAAATTGTAGAGCAAGGCACACATCAAGAATTG 2160
 701  H  R  I  I  A  M  D  K  G  K  I  V  E  Q  G  T  H  Q  E  L   720

2161 TTGCAAAAAGAAGATGGTTACTATCGTTATTTATATGATTTGCAGAATGGATAAA      2215
 721  L  Q  K  E  D  G  Y  Y  R  Y  L  Y  D  L  Q  N  G  *
```

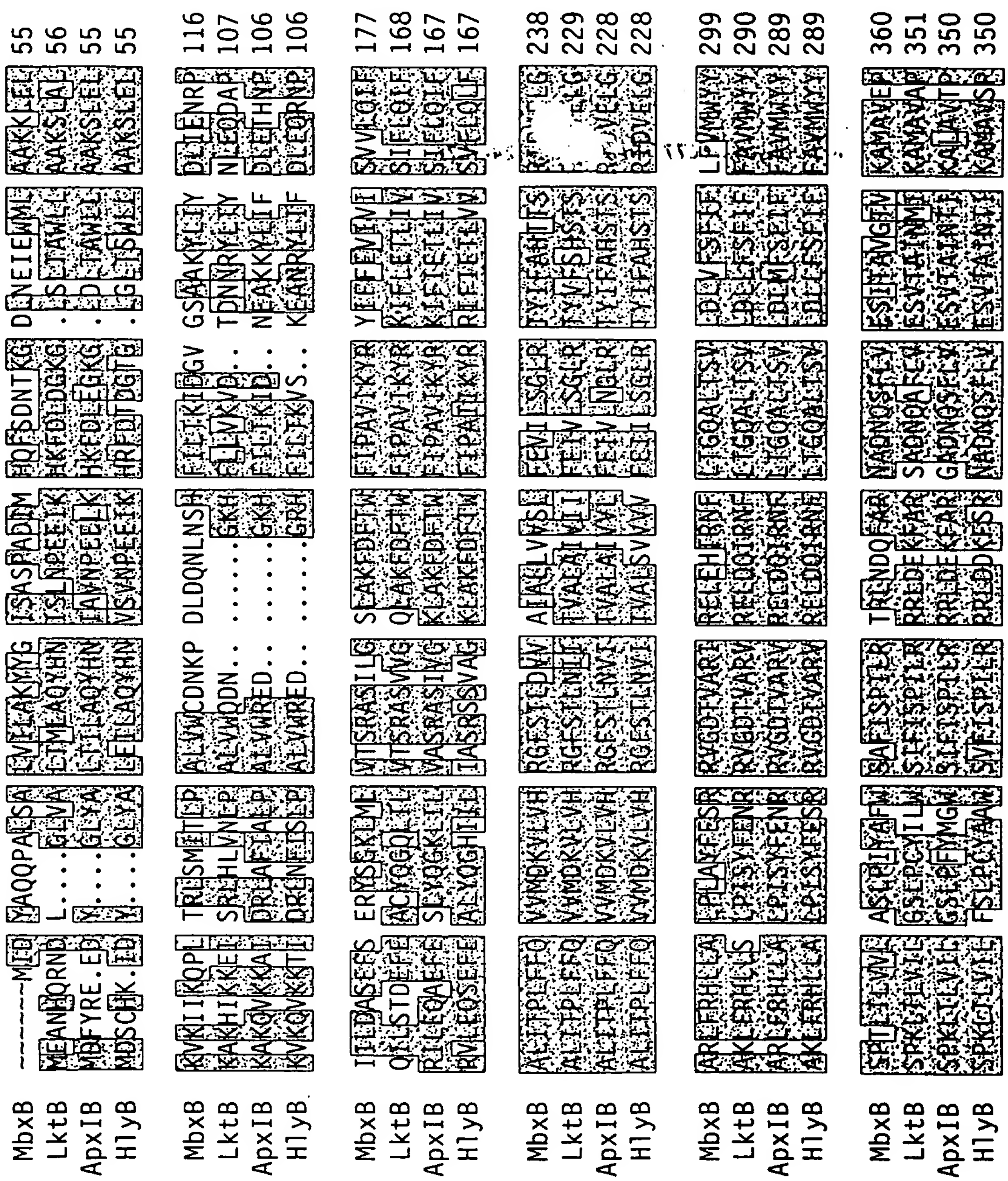


FIG. 9–1

```
MbxB   QMTRRWDNQ LAAYVVSSF RVAKLAMVG QQGVQLIQK MVIVATEWI GAKLVIEGK LSVGQLI 421
LktB   QMTDTWDKQ LASYVSSSF RVTVLATIG QQGVQLIQK TVMVINLWL GAHLVISGD LSIGQLI 412
ApxIB  QMTNTWDKQ LASYVSAGF RVTTLATIG QQGVQFIQK VVMVITLWL GAHLVISGD LSIGQLI 411
HlyB   QMTNIWDKQ LAGYVAAGF KVTVLATIG QQGIQLIQK TVMIINLWL GAHLVISGD LSIGQLI 411

MbxB   AFNMLAGQV AAPVIRLAQ LWQDFQQVG ISVARLGDI LNTPTEHST SRLTLPDIK GDITFEN 482
LktB   AFNMLSGQV IAPVIRLAQ LWQDFQQVG ISVTRLGDV LNSPTEQYQ GKLSLPEIK GDISFKN 473
ApxIB  AFNMLSGQV IAPVIRLAQ LWQDFQQVG ISVTRLGDV LNSPTESYQ GKLALPEIK GDITFRN 472
HlyB   AFNMLAGQI VAPVIRLAQ IWQDFQQVG ISVTRLGDV LNSPTESYH GKLALPEIN GDITFRN 472

MbxB   VDFRYKIDG HLILQNLNL QINAGEILG IVGRSGSGK STLTKLVQR LYVPENGRI LVDGNDL 543
LktB   IRFRYKPDA PTILNNVNL EIRQGEVIG IVGRSGSGK STLTKLLQR RYIPENGQV LIDGHDL 534
ApxIB  IRFRYKPDA PVILNDVNL SIQQGEVIG IVGRSGSGK STLTKLIQR FYIPENGQV LIDGHDL 533
HlyB   IRFRYKPDS PVILDNINL SIKQGEVIG IVGRSGSGK STLTKLIQR FYIPENGQV LIDGHDL 533

MbxB   ALADPAWLR RQVGVVLQE NVLLNRSIR DNIALTDTG MSLEFIIQA AKMSGAHDF IMELPEG 604
LktB   ALADPNWLR RQIGVVLQD NVLLNRSIR ENIALSDPG MPMERVIYA AKLAGAHDF ISELREG 595
ApxIB  ALADPNWLR RQVGVVLQD NVLLNRSIR DNIALADPG MPMEKIVHA AKLAGAHEF ISELREG 594
HlyB   ALADPNWLR RQVGVVLQD NVLLNRSII DNISLANPG MSVEKVIYA AKLAGAHDF ISELREG 594

MbxB   YDTIVGEQG AGLSGGQRQ RIAIARALI TNPRILIFD EATSALDYE SERAIMQNM QAICQGR 665
LktB   YNTIVGEQG AGLSGGQRQ RIAIARALV NNPKILIFD EATSALDYE SEHIIMQNM QKICQGR 656
ApxIB  YNTIVGEQG AGLSGGQRQ RIAIARALV NNPKILIFD EATSALDYE SEHIIMRNM HQICKGR 655
HlyB   YNTIVGEQG AGLSGGQRQ RIAIARALV NNPKILIFD EATSALDYE SEHIIMRNM HKICKGR 655

MbxB   TVLIIAHRL STVKMAHRI IAMDKGKIV EQGTHQELL QKEDGYYRY LYDLQNG 717
LktB   TVILIAHRL STVKNADRI IVMEKGEIV EQGKHHELL QNSNGLYSY LHQLQLN 708
ApxIB  TVIIIAHRL STVKNADRI IVMEKGQIV EQGKHKELL ADPNGLYHY LHQLQSE 707
HlyB   TVIIIAHRL STVKNADRI IVMEKGKIV EQGKHKELL SEPESLYSY LYQLQSD 707
```

FIG. 9-2

FIG. 10


```
   1 ATGACGAAAAAGTTTGCAGAGCTAGGTTTAATTGCATGGCTTTGGTCTAACTCTGATATG   60
   1  M  T  K  K  F  A  E  L  G  L  I  A  W  L  W  S  N  S  D  M   20

  61 CATAAACATTGGACGTTGTCTTTGTTTGCGACCAATGTTATTCCGGCAATTGAGACAGGT  120
  21  H  K  H  W  T  L  S  L  F  A  T  N  V  I  P  A  I  E  T  G   40

 121 CAATATGTTATATTGAAAAGAGAAGATATGCCTGTAGCATATTGTAGTTGGGCTAAACTT  180
  41  Q  Y  V  I  L  K  R  E  D  M  P  V  A  Y  C  S  W  A  K  L   60

 181 AGTTTAGAAAACGAGGTTAAATATATTAACGATGTTACTTCTCTTAAGTTAGATGACTGG  240
  61  S  L  E  N  E  V  K  Y  I  N  D  V  T  S  L  K  L  D  D  W   80

 241 CAGTCAGGTGACCGAAACTGGTTTATTGACTGGATTGCTCCATTTGGCGATAGTCTTACA  300
  81  Q  S  G  D  R  N  W  F  I  D  W  I  A  P  F  G  D  S  L  T   100

 301 CTCACAAAACACATGAGAACGTTATTTTCAGATGAATTGTTTAGAGCGATTCGTGTAGAT  360
 101  L  T  K  H  M  R  T  L  F  S  D  E  L  F  R  A  I  R  V  D  120

 361 GGAAATTCATCGCATGGTAAGATATCTGAATTTTATGGAAAGTCTGTTGATTCAAAATTA  420
 121  G  N  S  S  H  G  K  I  S  E  F  Y  G  K  S  V  D  S  K  L  140

 421 GCCTCAAGAATATTTGCACAATATCACGAAGATTTGACGAGCAAATTGTCAACTCAGAAT  480
 141  A  S  R  I  F  A  Q  Y  H  E  D  L  T  S  K  L  S  T  Q  N  160

 481 AATTTTATTATATCTAAAGATAATTAA                                    507
 161  N  F  I  I  S  K  D  N  *                                     169
```

FIG. 11

FIG. 12-1


```
  1 ATGTTTATACAAGCACTTAAAGATTTTTTTATTCGCTATATAACCGTTTGGCGCAATACA   60
  1 M  F  I  Q  A  L  K  D  F     I  R  Y  I  T  V  W  R  N  T

 61 TGGGCAGTTCGAGACCAACTAACCCCTCCTAAGCGTACTAAAGAAGAACTCGCTTTTCTT  120
 21 W  A  V  R  D  Q  L  T  P  P  K  R  T  K  E  E  L  A  F  L   40

121 CCTGCACATCTAGAACTCACTGACACACCTGTATCCAGATCTTCTAAGTGGACAGCTAGA  180
 41 P  A  H  L  E  L  T  D  T  P  V  S  R  S  S  K  W  T  A  R   60

181 ATAATCATGATATTTGTCCTATTTGCTTTGCTATGGTCTTGGGTTGGACAGATTGACATT  240
 61 I  I  M  I  F  V  L  F  A  L  L  W  S  W  V  G  Q  I  D  I   80

241 GTTGCTACAGCTTCAGGTAAAATTTCTTCAGGTAGCCGTAGCAAGACTATTCAATCTTTG  300
 81 V  A  T  A  S  G  K  I  S  S  G  S  R  S  K  T  I  Q  S  L  100

301 GAAACAGCGATAGTTAAAGCAGTTTATGTACGTGATGGTCAAAATGTTCAACAAGGTGAA  360
101 E  T  A  I  V  K  A  V  Y  V  R  D  G  Q  N  V  Q  Q  G  E  120

361 ATATTAGTAGATTTAGTGGGAATCGGTTCAGATAGTGATGTTGCTCAGTCCGAGAAAGCC  420
121 I  L  V  D  L  V  G  I  G  S  D  S  D  V  A  Q  S  E  K  A  140

421 CTTCGAGCAGCGCAATTATCTAAGCTACGCCTTGAAGCAATTTTATCAGCATTAAATCAC  480
141 L  R  A  A  Q  L  S  K  L  R  L  E  A  I  L  S  A  L  N  H  160

481 CGTATTAATCCTCAGATTGATGTAGCATATGCAAAGTCTTTAAATATTTCAGAATCGGAA  540
161 R  I  N  P  Q  I  D  V  A  Y  A  K  S  L  N  I  S  E  S  E  180

541 ATTAATGAAGCTCAAACTTTAGCCCAAAATCAATATCAAGCATGGTTAGCACAAGATGAA  600
181 I  N  E  A  Q  T  L  A  Q  N  Q  Y  Q  A  W  L  A  Q  D  E  200

601 CAACTAAAATTAACCTTAAAAGGACATCAAGCAGAATTACAATCTGCTCGATCCCAAGAA  660
201 Q  L  K  L  T  L  K  G  H  Q  A  E  L  Q  S  A  R  S  Q  E  220

661 CAAAAGTTGGTTTCAGTTGGTGCAATTGAACATCAAAAGACTGATGATTATCGGAGTCTC  720
221 Q  K  L  V  S  V  G  A  I  E  H  Q  K  T  D  D  Y  R  S  L  240

721 AAAGCAGAAAATTTTATATCTGAGCATGCTTATCTAGAACAAGAAAGCAAATTACTTAGC  780
241 K  A  E  N  F  I  S  E  H  A  Y  L  E  Q  E  S  K  L  L  S  260

781 AATCAAAATGATTTACAAAGTACACGTAGTCAGATTCAAAAAATACAGGCTGCAATCATG  840
261 N  Q  N  D  L  Q  S  T  R  S  Q  I  Q  K  I  Q  A  A  I  M  280

841 CAAGCTGAACAGAACCGTATGTTATATACTCAAAATCTAAAACGTGATACATTAGAATCT  900
281 Q  A  E  Q  N  R  M  L  Y  T  Q  N  L  K  R  D  T  L  E  S  300

901 TTACGCCAAACCAATGAACAGATTAATCAATATACTGGTCAAACTAATAAAGCTAAGCAG  960
301 L  R  Q  T  N  E  Q  I  N  Q  Y  T  G  Q  T  N  K  A  K  Q  320
```

FIG. 12-2

961 CGACAGAAATTGCTGAGTATTAAATCACCTGTTAATGGTACTATACAAGAGCTAACAGCT 1020
321 R Q K L L S I K S P V N G T I Q E L T A 340

1021 TATACTTTAGGTGGAGTTGTACAAGCAGCACAAAAAATTATGGTTGTGGCACCTAACGAT 1080
341 Y T L G G V V Q A A Q K I M A V V A P N D 360

1081 AATCAAGTGGAAGTAGAGGTATTAGTGCTAAATAAAGATATCGGCTTTGTAAAAGCTGGG 1140
361 N Q V E V E V L V L N K D I G F V K A G 380

1141 CAGAATGTTATCATCAAAATCGAGAGTTTTCCTTATACACGTTATGGTTATTTAACAGGT 1200
381 Q N V I I K I E S F P Y T R Y G Y L T G 400

1201 AAAATAAAAAGTATTAGTCATGATGCTATAGAACATCAACATTTAGGTCTAGTGTATACT 1260
401 K I K S I S H D A I E H Q H L G L V Y T 420

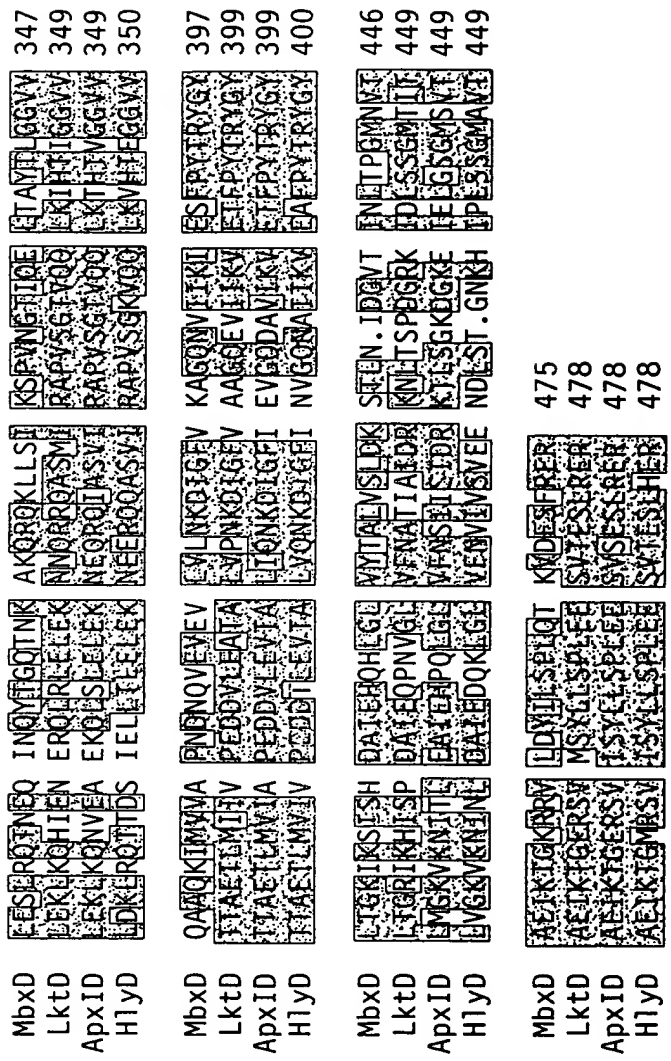
1261 GCACTTGTTTCTCTTGATAAAAGCACATTAAATATAGATGGAGTAACAATCAACTTAACG 1320
421 A L V S L D K S T L N I D G V T I N L T 440

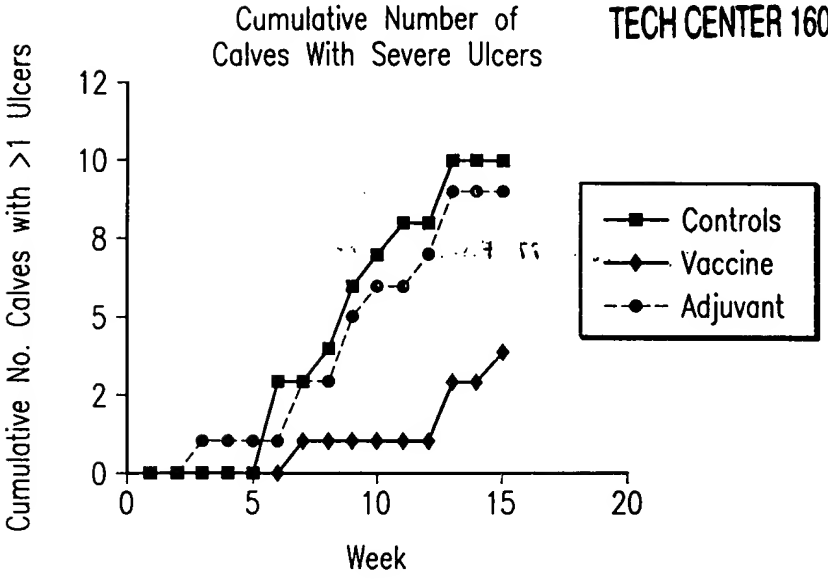
1321 CCAGGAATGAATGTTACTGCTGAAATTAAAACAGGTAAACGTCGTGTTTTGGATTATATA 1380
441 P G M N V T A E I T G K R R V L D Y I 461

1381 TTAAGTCCATTGCAGACAAAAGTTGATGAAAGTTTTCGAGAACGCTAA 1428
461 L S P L Q T K V D E S F R E R * 476

FIG. 13-1

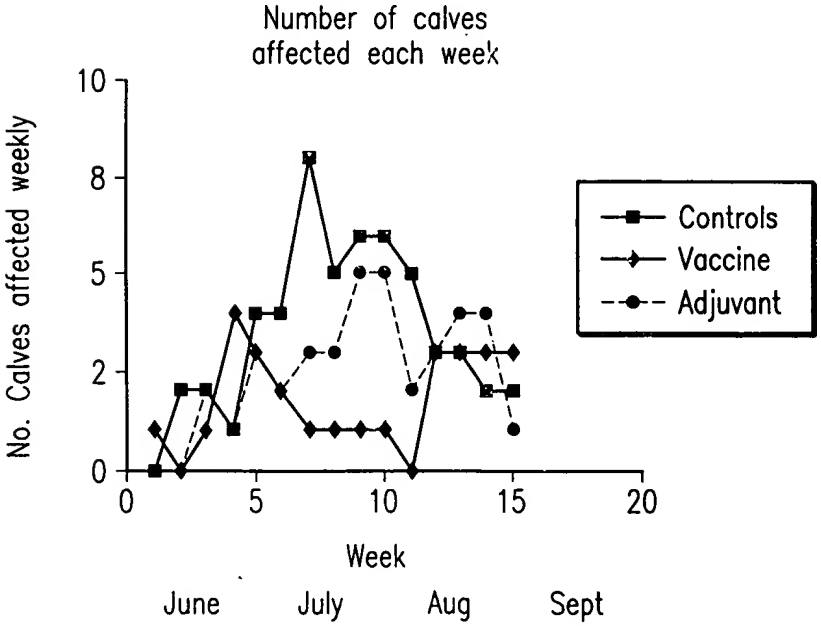
FIG. 13-2





Number of calves with ulcers with clinical scores>+2

FIG. 14



Number of calves affected weekly in 1 group of vaccinated calves and in controls.

FIG. 15

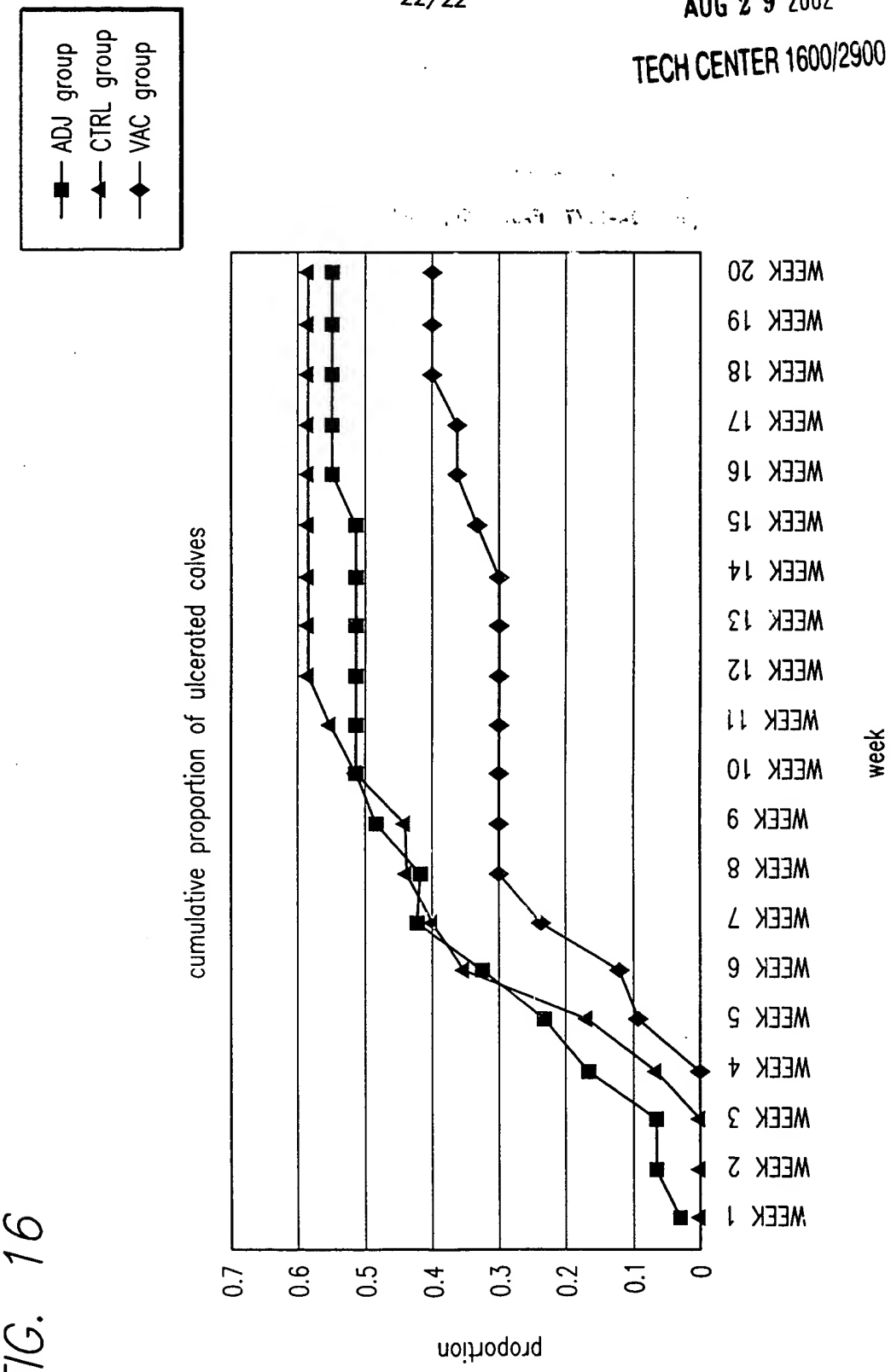


FIG. 16